Readiness for open educational resources: a study of Hong Kong

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Abstract

As one of the most developed cities in terms of information technologies and internet penetration, Hong Kong possesses a high technological potential for the growth and bloom of open educational resources (OER). Yet, previous studies have shown that the use of OER in the territory has been rather limited and that potential users' reluctance and ambivalence towards it has constrained to its development.

This paper reports a study being carried out as the initial phase of a project to gauge user readiness at intervals over a period of three years. It first explains the project plan and this study, which covers both teachers and students in Hong Kong. Through a survey, the study attempts to determine their readiness to use and their contribution to OER. It assesses the respondents' awareness of resources available, experience of using and contributing to OER, satisfaction level, and attitude towards open licenses.

Preliminary findings show that tertiary students, despite their high computer literacy, have some but limited familiarity with OER. A majority of them only have experience in using Wikipedia, but have never contributed to OER. Further institutional and instructional support is needed to enhance their awareness of available resources and benefits of using and contributing to them.

Keywords: Open educational resources, user readiness, user awareness, user experience, user satisfaction, user attitude.

Introduction

Hong Kong is one of the most developed cities in terms of internet penetration and technological infrastructure, which provides a fertile ground for open educational resources (OER) to flourish. By February 2014, the household broadband penetration rate in Hong Kong has reached 83.2% and mobile penetration rate 238.6% within which 72.7% of mobile subscriber accounts are using a data network (Office of the Communication Authority, 2014). The Government has been investing substantially on information and communication technology (ICT) in education sector. All schools have necessary ICT infrastructure and low-income families are sponsored to acquire affordable computers, Internet access services and essential internet skills (Education Bureau, 2012).

These make it reasonable to expect the highly techno-ready community, especially teachers and students, in Hong Kong to widely use and actively contribute to such resources for teaching and learning. Yet, previous studies (Li & Yuen, 2012; Li et al., 2013; Yuen & Wong, 2013) have shown that the reality is far from the expected. For teaching staff of tertiary institutions who participated in a recent survey on use of OER, less than half (43.6%) of them often use the resources in class and only 21.1% have ever produced OER as teaching or learning resources.

Against this background and the anticipation of behavioural changes in the snowballing development of OER, a five-year project of a longitudinal study is being planned to gauge the development of user readiness for OER in coming years. Within the length allowed, this paper reports a survey study which is part of the preparation for the project. It first explains the motivation and plan for the study and reviews related studies, following which a theoretical framework of user readiness for OER will be briefly presented. It reports a survey on tertiary students' readiness as the initial phase of the project, and summarizes the preliminary findings.

Motivation and Plan

Previous studies (Abeywardena, Dhanarajan, & Chan, 2012; Li & Yuen, 2012; Li et al., 2013; Yuen & Wong, 2013) reveal major barriers hindering the use of OER among teachers in local tertiary institutions. Examples include (1) limited degree of openness for most OER in Hong Kong, especially relating to copyright issues that prohibit users from legally revising and redistributing the resources or even keeping their own backup copy; (2) lack of institutional policy support for the development and use of OER as teaching and learning resources; and (3) time and effort required to locate or produce quality OER.

Some tertiary institutions in Hong Kong have been actively involved in the development and provision of different kinds of OER. Notably, the Open University of Hong Kong (OUHK) has been engaged in a project producing open textbooks and setting up a platform for delivering them (Li, 2013; Tsang, Yuen, Li, & Cheung, 2013; Yuen & Li, 2012; Yuen & Wong, 2013. Open courseware (OCW) are being provided by tertiary institutions such as OUHK and the University of Hong Kong. Massive open online courses (MOOC) are also being offered by several local universities, e.g. the Hong Kong University of Science and Technology and the Chinese University of Hong Kong.

It is foreseeable that OER users will gain more experience on such resources when more and more quality OER are available in the coming years. Accordingly, user perceptions towards OER will very likely change (Venkatesh et al., 2003).

This project focuses on the change with time. It assesses readiness of potential OER users and aims to determine the extent to which they are ready to use and contribute to such resources. It gauges user readiness at intervals over a period of three years. It adopts a survey approach to collect data regarding the respondents' awareness of resources available, experience of using and contributing to OER, satisfaction levels, and attitudes towards open licenses.

Results from teachers and students will be compared and cross-sectorial comparisons will be made between stakeholders of tertiary education and school education within the resources available. They will offer insights to the promotion of OER and the establishment of OER platforms. Data from this study may be employed for comparison with other territories.

Related Works

Studies have identified factors affecting user readiness for OER in various territories. In developing countries, network infrastructure has been found to be a significant factor of user readiness. For the case of China, Wang and Zhao (2011) found that only 37% of universities provide wireless network in the campus, and only small number of colleges and universities have email service for their teachers (18.3%) and students (12.5%). A similar situation is observed in Tanzania (Mtebe & Raisamo, 2014).

Another critical factor is awareness of the existence of OER. It is found in various studies (e.g. Li, 2013; Mtebe & Raisamo, 2014; Rolfe, 2012) that some instructors are still unaware of its existence. A study in the UK shows that academic staff may have been exposed to the use of such resources but did not hear the term OER nor fully understand this concept (Rolfe, 2012).

Many instructors also lack knowledge about copyright and intellectual property issues related to OER. They may thus hesitate to use and share OER with the fear of violating any copyright laws (Mtebe & Raisamo, 2014). They may also want to retain some rights over their work when sharing with the public (Hylén, 2006).

While existing studies dominantly focus on perspectives of teachers and institutions, students' readiness for OER has been rarely addressed. Yan, Au, Chan, and Tsang (2013), are one of the few, who discuss the cultural barriers of Hong Kong students vis a vis OER. They refer to the study of Wong (2004) on learning styles among Asian students, and opine that Hong Kong students tend to be "teacher-centred" and "examination-oriented" and show little intent in accessing or sharing OER, if it is not assigned by teachers and does not directly benefit their marks or assessment.

This study takes into consideration the identified factors of OER readiness, and examines to what extent they apply to the case of Hong Kong.

Theoretical Framework

This study adopts the unified theory of acceptance and use of technology (UTAUT) model (Venkatesh et al., 2003) to examine users' readiness to use and contribute to OER. The model combines eight dominant theories or models of technology acceptance, namely, theory of reasoned action (TRA), technology acceptance model (TAM), motivation model (MM), theory of planned behaviour (TPB), a combined theory of TPB and TAM (C-TPB-TAM), model of PC utilization (MPCU), innovation diffusion theory (IDT), and social cognitive theory (SCT). It is chosen for its established robustness and validity in predicting the acceptance of new technologies in a way better than any of its eight component models (Venkatesh et al., 2003), and wide use in studies regarding the acceptance of OER (e.g. Dulle & Minishi-Majanja, 2011; Mtebe & Raisamo, 2014; Percy & Belle, 2012).

The model is composed of four core constructs determining the intension and behaviour of using/ contributing to OER. *Performance expectancy* refers to the degree to which an individual believes that using/contributing to OER will help him or her obtain gains in some sorts of performance (e.g. teaching or learning). *Effort expectancy* represents the degree of ease associated with locating, adapting, using and contributing to OER. *Social influence* is the degree to which an individual perceives as important and others believe he or she should use/contribute to OER. *Facilitating conditions* are the degree to which an individual believes that organizational support or technical infrastructure exists for the use/contribution of OER.

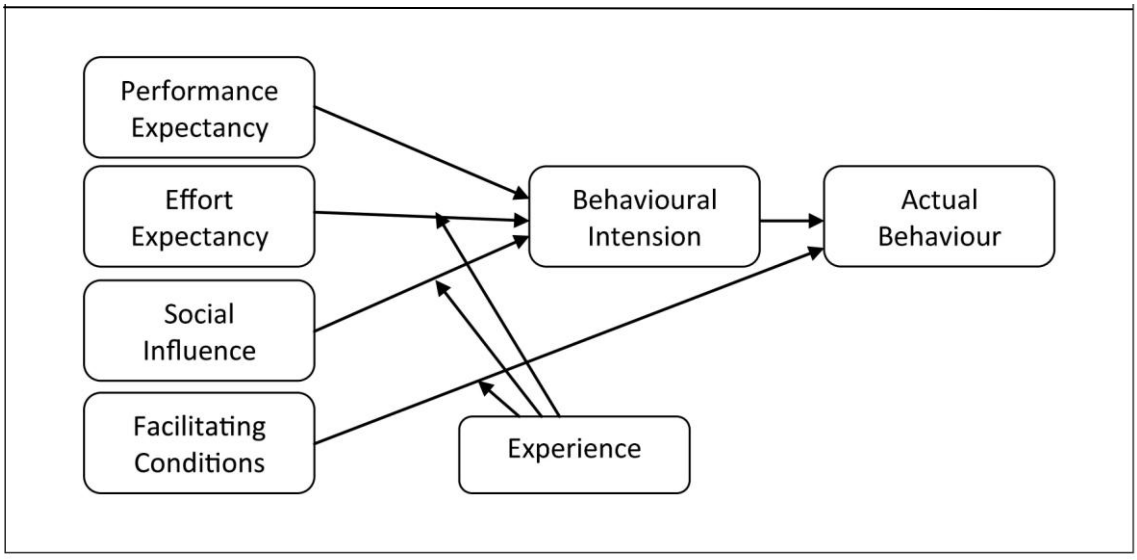

Figure 1 Adapted UTAUT Model for This Study

There is also an *experience* variable for moderating the strength of effect for the constructs. It refers to users' computer literacy and experience in OER. Figure 1 illustrates the model for the study.

Survey on Tertiary Student Readiness for OER

As an initial phase of the project, the readiness of tertiary students is investigated through a questionnaire survey. This techno-savvy user group has seldom been the focus of OER studies, though their perception in this aspect indicates the effectiveness of promotion and use of OER at the instructional and institutional levels. The questionnaire is adopted from Venkatesh et al. (2003) which is developed based on UTAUT model. Modification is made by rewording items to suit the context of the study, and adding items to cover students' familiarity and knowledge of ICT, their awareness of OER and, in addition to use, their perceptions on sharing as well as revision/creation of OER. The questionnaire was piloted on 32 full-time undergraduate students from different disciplines. Preliminary findings are presented as follows.

Most of the respondents indicated that they are familiar (self-rated as good or excellent) with internet tools, with social media the highest (77.8%), followed by email (70.4%) and search engine (59.3%). This is even better than that with PC operation (48.1%), word processing (51.9%) and presentation software (37%). They are less familiar with editing of webpage (11.1%), image (11.1%) and video (18.5%).

However, the respondents show a limited degree of awareness towards OER. Only 29.6% of them indicated that they have no idea about OER, 33.3% know of it, and 33.3% know how to use it. The limited awareness is also reflected in their frequency of using OER. Among common types of OER, most respondents only frequently use (above 15 times in past three months) Wikipedia (43.8%). A majority of them never use the others, i.e., Wikibook (46.9%), Youtube EDU (43.8%), free courseware (53.1%) and MOOC (78.1%). The respondents have virtually no knowledge of open licenses. The contrast between high computer literacy and low usage OER suggests that there may be no direct relationship between the two. Such a lack of relationship is also observed in Kelly (2014). A possible reason, as commented by respondents, is the lack of instructional and institutional support for OER, that such resources are never advised or used by instructors in their teaching.

Based on the UTAUT model, there is one factor affecting the actual use of OER, and three affecting the intention to use. From the survey result, the Spearman correlation of actual use with facilitating conditions (FC) is 0.494. The correlation of the intention to use with performance expectancy (PE) is 0.501, that with effort expectancy (EE) is 0.412 and that with social influence (SI) is 0.075. Social influence does not have any effect on students' willingness to use OER.

For contribution of OER (producing, redistribution, revision and remix), results show that most respondents are far from ready for it. Only one, out of 32 respondents (3.1%), indicated a familiarity with the revision of OER, and only 12.5% of them ever made contribution to Wiki-resources (Wikipedia, Wikibook and Wiktionary) for a few times. This finding is in line with their relatively low level of computer literacy of editing webpage, image and video.

Conclusion

This study is an initial phase to track the readiness of various stakeholders in Hong Kong for the use and contribution of OER. As one of the most developed cities, technological and network infrastructure is well developed in the territory, and according to the survey results, most tertiary students have high computer literacy on using online tools and resources. However, their familiarity and experience in OER is rather limited, especially in terms of contributing to resources. The lack of instructional and institutional support also hinders the development of students' readiness.

The findings also reveal inadequate readiness of other stakeholders in the education sector (e.g. teachers, instructional designers and institutions) to facilitate students to benefit from OER, or promoting and using OER in their educational delivery. For promoting openness in education and assisting students to gain from and supply resources in future, serious efforts to enhance students' awareness of available resources and to encourage them to use and contribute to resources are highly desirable.

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